

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. -20. (Canceled)

21. (New) A lithium based electrochemical cell system comprising:  
a positive electrode, the positive electrode comprising lithium metal oxide; and  
a negative electrode, the negative electrode comprising a lithium metal;  
an electrolyte, the electrolyte selected from the group consisting of an electrolyte consisting of a lithium salt, a first aprotic solvent and a second aprotic solvent, an electrolyte consisting of a liquid gel and a lithium salt dissolved therein, and an electrolyte consisting of a solid polymer and a lithium salt dissolved therein;  
the electrolyte further comprising a degassing agent.

22. (New) The lithium based electrochemical cell system of claim 21, wherein the degassing agent comprises a constituent from the class of organic compounds having the structure  $\text{CH}_2=\text{R}_1=\text{CH}_2$ , wherein  $\text{R}_1$  is an aliphatic carbon chain of 1 to 7 carbons.

23. (New) The lithium based electrochemical cell system of claim 21, wherein the degassing agent comprises a compound having a formula selected from the group consisting of  $\text{CH}=\text{R}_1=\text{CH}$ ,  $\text{CH}_2=\text{R}_1$ , and  $\text{CH}=\text{R}_1$ , wherein  $\text{R}_1$  is an aliphatic carbon chain of 1 to 7 carbons.

24. (New) The lithium based electrochemical cell system of claim 21, wherein the degassing agent comprises a compound or a blend of compounds having a formula selected from the group consisting of  $\text{R}_2-\text{C}=\text{R}_1=\text{CH}_2$ ,  $\text{R}_2-\text{C}\equiv\text{R}_1=\text{CH}$ ,  $\text{R}_2-\text{CH}=\text{R}_1$  and  $\text{R}_2-\text{C}\equiv\text{R}_1$ , wherein  $\text{R}_1$  is an aliphatic carbon chain of 1 to 7 carbons and wherein  $\text{R}_2$  is a compound selected from the group consisting of an aromatic, a cyclic hydrocarbon, an aromatic hydrocarbon, a pyrrole, a piperazine, and a piperidine.

25. (New) The lithium based electrochemical cell system of claim 21, wherein the degassing agent comprises a compound selected from the group consisting of 2,3 dimethyl-1,3 butadiene, 1,3 butadiene, 2,3 dimethyl-1,4 pentadiene, and 1,5 hexadiene.
26. (New) The lithium based electrochemical cell system of claim 21, wherein the degassing agent comprises a blend of 2,3 dimethyl-1,3 butadiene and vinyl ethylene carbonate.
27. (New) The lithium based electrochemical cell system of claim 21, wherein the degassing agent comprises a blend of 2,3 dimethyl-1,4 pentadiene and vinyl pyridine.
28. (New) The lithium based electrochemical cell system of claim 21, wherein the degassing agent comprises a blend of 1,5 hexadiene and piperazine.
29. (New) The lithium based electrochemical cell system of claim 21, wherein the degassing agent comprises a blend of 2,3 dimethyl-1,3 butadiene and styrene.
30. (New) The lithium based electrochemical cell system of claim 21, wherein the degassing agent comprises a blend of 2,3 dimethyl-1,3 butadiene and piperidine.
31. (New) The lithium based electrochemical cell system of claim 21, wherein the degassing agent comprises a blend of hexadiene and vinyl pyridine.
32. (New) The lithium based electrochemical cell system of claim 1, wherein the degassing agent comprises a blend of 2,3 dimethyl-1,3 butadiene and triphenyl phosphate.
33. (New) The lithium based electrochemical cell system of claim 21, wherein the degassing agent comprises a blend of 2,3 dimethyl-1,3 butadiene and vinyl pyridine.
34. (New) The lithium based electrochemical cell system of claim 21, wherein the degassing agent comprises a blend of styrene carbonate and vinyl piperazine.
35. (New) A rechargeable lithium ion cell comprising:  
a positive electrode, the positive electrode comprising lithium metal oxide; and

a negative electrode, the negative electrode comprising a crystalline carbon;  
an electrolyte, the electrolyte comprising a lithium salt, a first aprotic solvent, a second aprotic solvent, and a degassing agent.

36. (New) The rechargeable lithium ion cell of claim 37, wherein the first aprotic solvent and second aprotic solvent are selected from the group consisting of ethylene carbonate, dimethyl carbonate, ethyl methyl carbonate, propylene carbonate, and diethyl carbonate.

37. (New) The rechargeable lithium ion cell of claim 37, wherein the degassing agent comprises a constituent from the class of organic compounds having the structure  $\text{CH}_2=\text{R}_1=\text{CH}_2$ , wherein  $\text{R}_1$  is an aliphatic carbon chain of 1 to 7 carbons.

38. (New) The rechargeable lithium ion cell of claim 37, wherein the degassing agent comprises a compound having a formula selected from the group consisting of  $\text{CH}\equiv\text{R}_1\equiv\text{CH}$ ,  $\text{CH}_2=\text{R}_1$ , and  $\text{CH}\equiv\text{R}_1$ , wherein  $\text{R}_1$  is an aliphatic carbon chain of 1 to 7 carbons.

39. (New) The rechargeable lithium ion cell of claim 37, wherein the degassing agent comprises a compound or a blend of compounds having a formula selected from the group consisting of  $\text{R}_2-\text{C}=\text{R}_1=\text{CH}_2$ ,  $\text{R}_2-\text{C}\equiv\text{R}_1\equiv\text{CH}$ ,  $\text{R}_2-\text{CH}=\text{R}_1$  and  $\text{R}_2-\text{C}\equiv\text{R}_1$ , wherein  $\text{R}_1$  is an aliphatic carbon chain of 1 to 7 carbons and wherein  $\text{R}_2$  is a compound selected from the group consisting of an aromatic, a cyclic hydrocarbon, an aromatic hydrocarbon, a pyrrole, a piperazine, and a piperidine.

40. (New) A rechargeable lithium ion cell comprising:  
a positive electrode, the positive electrode comprising lithium metal oxide; and  
a negative electrode, the negative electrode comprising a crystalline carbon;  
an electrolyte, the electrolyte selected from the group consisting of an electrolyte consisting of a liquid gel and a lithium salt dissolved therein, an electrolyte consisting of a solid polymer and a

lithium salt dissolved therein, and an electrolyte consisting of a solid polymer blended with a lithium salt dissolved in a first aprotic solvent and a second aprotic solvent; the electrolyte further comprising a degassing agent.

41. (New) The rechargeable lithium ion cell of claim 55, wherein the degassing agent comprises a constituent from the class of organic compounds having the structure  $\text{CH}_2=\text{R}_1=\text{CH}_2$ , wherein  $\text{R}_1$  is an aliphatic carbon chain of 1 to 7 carbons.

42. (New) The rechargeable lithium ion cell of claim 55, wherein the degassing agent comprises a compound having a formula selected from the group consisting of  $\text{CH}\equiv\text{R}_1\equiv\text{CH}$ ,  $\text{CH}_2=\text{R}_1$ , and  $\text{CH}\equiv\text{R}_1$ , wherein  $\text{R}_1$  is an aliphatic carbon chain of 1 to 7 carbons.

43. (New) The rechargeable lithium ion cell of claim 55, wherein the degassing agent comprises a compound or a blend of compounds having a formula selected from the group consisting of  $\text{R}_2-\text{C}=\text{R}_1=\text{CH}_2$ ,  $\text{R}_2-\text{C}\equiv\text{R}_1\equiv\text{CH}$ ,  $\text{R}_2-\text{CH}=\text{R}_1$  and  $\text{R}_2-\text{C}\equiv\text{R}_1$ , wherein  $\text{R}_1$  is an aliphatic carbon chain of 1 to 7 carbons and wherein  $\text{R}_2$  is a compound selected from the group consisting of an aromatic, a cyclic hydrocarbon, an aromatic hydrocarbon, a pyrrole, a piperazine, and a piperidine.